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ABSTRACT

A project was conducted at Reading Area Community College (Pennsylvania) to develop the basic reading, writing, and mathematics skills of students with learning disabilities, to develop the self-esteem of these students, to motivate them, and to develop a model program that could be used by other adult education providers. The project featured a special open-ended class for adult basic education students who had learning disabilities and who had experienced repeated failure in school. The class was conducted by a teacher trained to deal with learning disabilities. The special class used nontraditional teaching techniques, including "sight/sound reading" and "tic-tac-toe math." During the project, 13 students entered the class, and 9 students reached their learning goals. The students were extremely pleased and proud of their achievements, because they had had academic problems most of their lives. (Appendixes include an evaluation form and handwritten evaluations by students.) (KC)

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DIVISION OF ADULT EDUCATION

Final Report

HEAD START FOR LEARNING DISABLED STUDENTS

1990 - 1991

Reading Area Community College
10 South Second Street
Reading, PA 19603
Phone Number (215) 372-4721 ext. 261

Total amount of the Grant $16,771.00
Project number 98-1017

Patricia Crean, Project Coordinator
Reading Area Community College

Pieter V. Miller, Project Director
Director of Adult Education
Reading Area Community College

June 30, 1990

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Abstract Page

Title: Head Start for Learning Disabled Adults

Address: Reading Area Community College
10 South Second Street
Reading, PA 19603

Phone: (215) 372-4721 ext. 261

Director: Pieter V. Miller
Federal Funding: $14,256.00
Duration: 12 months
Target Audience: Teachers of Learning Disabled Students

Objectives:

1. To develop the basic reading, writing, and math skills of students with learning disabilities.
2. To develop the self esteem, through academic success, of learning disabled students.
3. To provide orientation and motivation for students with negative school experiences through a positive school environment.
4. To develop a model program which can be used by other adult education providers.

Description:

A teacher, trained to deal with learning disabilities, has conducted a special open-ended class for Adult Basic Education students (10-12 in number) who are "learning different," and who have experienced repeated failure in school. This special class, utilizing non-traditional teaching techniques, has assisted students to develop their basic skills and their self-esteem. "Sight/Sound Reading" and "Tic Tac Toe Math" were basic techniques used in this class.

Introduction

The Head Start for Learning Disabled Adults Project was offered to Adult Basic Education students with learning disabilities at Reading Area Community College through a grant from the Pennsylvania Department of Education. This was funded by the Adult Education Act, Section 353 for Special Experimentation Demonstration and Staff Development Projects for Adult Education. The starting date for the project was September, 1990, and the project officially ended June 30, 1991.

This project was proposed as an extension of the Department of Education funded Learning Disabilities Staff Development Project. The Adult Education Division of the Reading Area Community College was responsible for administering the project. Any questions regarding the project or the final report may be addressed to Patricia Crean, Project Coordinator, Reading Area Community College, 10 South Second Street, P. O. Box 1706, Reading, Pennsylvania, 19603.

The Head Start for Learning Disabled Adults Project was introduced to Reading Area Community College Adult Basic Education faculty on September 27, 1990 which was shortly after the commencement date for the fall ABE/GED classes. The first students were enrolled for October classes, 1991. The final class date was May 23, 1991.

Objectives:

The objectives of the project were:

1. To identify ABE students who, having scored poorly on the adult education placement test or through teacher recommendation, would consent to being placed first in a special basic skills class.

2. To meet with these students in order to determine their educational history and to test them for a possible "learning difference."

3. To create a special class to improve these students' basic skills using alternative techniques developed to insure success.

4. To improve these students self-esteem, by offering them opportunities for success while learning these skills.

5. To develop a model program which could be used to help other "learning different" adult students.

Personnel:

Personnel who contributed significantly to the success of the program were the Adult Education Director, the project coordinator/instructor, learning disabilities advisor, and the volunteer tutor. The coordinator/instructor was most directly involved while the learning disability advisor from Learning Disability Consultants, Bryn Mawr, Pa., periodically oversaw class development and student progress. He advised the instructor when problems with student learning arose and offered suggestions for alternative methods. The adult education director and adult education coordinator contributed greatly in administrative matters, while the tutor was involved with students on a one to one basis. The tutor/student relationship is scheduled to continue on a convenient basis throughout the summer.

This report will be most significant to Adult Basic Education or General Education Development instructors, educational administrators, and tutor coordinators who work with adult students who may be learning disabled. It will be on file with the Division of Adult Basic and Literacy Education Programs, 333 Market Street, Harrisburg, Pennsylvania 17126-0333.

Significant outgrowths of this grant were threefold: a presentation, a video, and tutorial help. A program presentation was delivered at the Pennsylvania Adult Education Conference, February 6-8, 1991, titled "Teaching Methods for Learning Disabled Adults". This presentation was a group effort in conjunction with Dr. Richard Cooper of Learning Disabilities Consultants in Bryn Mawr, Pennsylvania and the learning disabilities grant coordinators from "Head Start for Learning Disabled Adults" and "Learning Disabilities Staff Development Project" from Reading Area Community College.

The students and the instructor/coordinator of the program were selected to participate in the Pennsylvania State University educational video presentation titled "Helping Adults Learn: Learning Disabilities". The taping for this presentation occurred on May 8-9, 1991.

The "Head Start for Learning Disabled Adults" also worked with the volunteer tutor program at Reading Area Community College. Through this linkage three students had the availability of tutorial help throughout the year and through the summer on a diminished basis.

Project Narrative

Many adults, having attained only marginal success, exit the academic process before graduation for a multitude of reasons. One of the reasons for their marginal academic success may be an undiagnosed learning disability. When these same students attempt the educational process for a second or third time, they may encounter similar walls and experience similar frustrations and failures. If their possible disabilities are not recognized and if they are not offered alternative methods of learning where they can achieve success, they may drop out of the educational process again, and quite possibly permanently. They then go on to join the ranks of those people who believe they are incapable of learning and undeserving of success.

The adult learning disabilities class was created as an attempt to reach some of these "learning different" students (ten to twelve, in number). It was designed to help diagnose a potential learning "difference" and to introduce the students to alternative methods of reaching the same end in math and reading. Through this class the students were encouraged to reach some level of academic success, which in turn, helped raise their personal self-esteem. It gave them the tools necessary for continued success in ABE and succeeded in eliminating their names from the rolls of the unsuccessful drop-out.

Student recruitment for the class took many different forms, some more successful than others. The initial method of recruitment was to be through teacher recommendation. The teachers in the Adult Basic Education (ABE) and lower levels of General Education Development (GED) classes were sent letters describing the class and its goals. The concept was to have the teachers, who best knew their students and their needs, to make the necessary recommendations. The recruitment letter also explained to the teachers that the students, after raising their skill levels, would be definitely returning to their ABE classes. Even after follow-up letters and newsletter inserts, very few teacher recommendations were made. The reasons for this failure were unclear and can only be surmised at this point. The only teachers who made student referrals were those who were already familiar with the program or the coordinator.

Notification of the adult learning disabilities program was given to the counselors in the Job Training Partnership Act (JTPA). Students, not able to meet the criteria for JTPA, were referred into the regular adult basic education classes and then referred to the learning disabilities program. This counselor referral system proved to be successful. The students, thus referred, made progress in the program and stayed the duration of the class.

"Word of mouth" advertising was also successful in student recruitment. When students began realizing success in the adult learning disabilities program, they happily informed other students in their ABE classes of their successes. The students currently enrolled in the class encouraged regular ABE students to give the alternative teaching/learning methods a chance, because they felt everyone could succeed in the class. Their enthusiasm was catchy.

To avoid some of the early pitfalls of student recruitment a few suggestions for success may be made. If an opening staff meeting is held at the onset of the new school year, the teacher/coordinator should be present to introduce the program, to meet the teachers, and to explain the alternative methods used on a personal basis. It should be made clear that the class is not designed to take students from the teachers, but it is designed to be used as a supplement to their teaching. It is for the students who have difficulty in a traditional class and need a more individualized approach.

Another method which should be effective is having the learning disabilities instructor present at the registration of adult education classes. Students know if they have difficulty with math and/or reading, and they know if they are willing to accept additional help. It is less threatening for learning disabled students to be able to meet the teacher before signing up for the class. Many of these people have been placed in special classes all their lives, and they may be suspicious of any additional "help", especially, if the special classes or their academic experiences have not been positive.

In addition to the above mentioned recruitment methods and student "word of mouth" advertising, an additional recruitment procedure could be classroom visits by the learning disabilities instructor. The instructor should explain the program and the expected requirements and results. This could be accomplished about the second week of classes. By this time the classes should be organized and working, and the students and teachers are beginning to recognize problem areas. A need for additional help may be becoming apparent and the instructor may be a welcome sight. Again, if the students see the instructor, she then becomes a known entity and is less threatening to them.

After recommendation for class and student agreement to enter the program, the majority of students went through a formal learning disabilities assessment developed by Dr. Richard Cooper (see appendix). Some of the students were assessed by Dr. Cooper himself, on his site visits, while others were assessed by the program instructor/coordinator. This was usually accomplished privately, prior to the initial entry into class. The instructor/coordinator had been trained in the use of his assessment tool by Dr. Cooper, previous to the student

recruitment and class commencement. This assessment was designed to determine educational development, language and math problems, organizational skills, auditory and receptive language problems, self-concept, right left problems, hyperactivity, coordination, etc. This tool may also be used as a conversation springboard during the assessment process to determine other difficulties with learning, which may or may not impede the learning process.

From the math assessment it can be determined if the student needed remedial help in addition and subtraction. This determination was made if the student was still counting to find the answer to a problem in addition and subtraction. This problem should be corrected initially before progressing on to the multiplication tables through the Tic Tac Toe Math.

In the reading process, if a student has auditory difficulties or receptive language problems, this is a signal that phonics should not be used in increasing their reading ability. If the student cannot hear the sounds, then he cannot learn phonics. This assessment may also determine whether the student has a scattered or ambiguous vocabulary, and specific reading process problems which will be discussed at a later time.

The students entering into the program had varied problems in math and/or reading. Thirteen adults were enrolled and twelve were successfully serviced in either or both of these subject areas. Since the adult students with learning disabilities had so many various problems, it became important not to try to solve too many of these problems at one time. Additionally, class time was limited to four hours each week (two, two hour sessions) which encouraged the students and the instructor to set goals which would solve the most immediate problems. Since each adult was advised of what were some of their specific learning problems, they knew what immediate skills needed improvement before they would be able to advance. When working with learning disabled adults in an adult basic education program, it is important to make the student very aware of his specific problem or problems. Once the student recognizes his problem, he can begin to deal with it. In addition, practice is very important when teaching the academic skills to this group of students. Instructors need to use exercises to develop skills and then to apply those learned skills. Constant review of learned skills is essential or those skills will be forgotten.

The majority of the students in the program came for help in mathematics. All the students had difficulty with the multiplication tables, but some of them needed help with basic addition and subtraction. If the student entered the program counting to solve an addition or subtraction problem, it was assumed they needed help remembering the basic facts. The first lessons always dealt with odd and even number recognition, which is also an integral part of "Tic Tac Toe" math. The basic facts

were taught as groups. When adding the same numbers, whether odd or even, the sum will be even, ie. 1+1=2, 2+2=4. When adding an odd and even number, the sum must always be odd, ie. 3+4=7, 5+6=11.

Some students have extreme difficulty with memorization. When this was evident, some memory tags were employed. In the case of 3+4=7, the explanation may be: if 3+3=6, 4 is 1 greater than 3, then 3+4 will equal 7, because 7 is greater than 6. This concept must be practiced with various problems in various ways. When continuing on to the next material, the previous lesson must be periodically reviewed or it will be forgotten. When adding with 9, concentrate on the addend other than 9. The students need to be shown that by subtracting 1 from the other addend a partial sum will appear. Next, place the 1 in front of the partial sum in the teen (tens) column and the correct sum will be attained (9+5=[5-1]=4=14).

Learning disabled students do not automatically recognize subtraction as the inverse operation to addition; they must be shown these relationships. For students having great difficulty with subtraction when the minuend is ten or larger approach the problem as an addition problem.

$$\begin{array}{r} 12 \\ -7 \\ \hline 5 \end{array}$$

In this type of situation first solve to find the unknown when the subtrahend and the unknown equal 10.

$$\begin{array}{r} 12 \\ \underline{-7\ (+3=10)} \end{array}$$

The next step is to add the 2 in the minuend and the unknown 12 to solve for the problem.

$$\begin{array}{r} \underline{-7(+3=10)} \\ 12 \\ \underline{-7(3=10)} \\ 5 \end{array}$$

Two plus three equal five and twelve minus seven equals five.

The majority of the adults entering the program came for help with the multiplication tables. Years of failure had helped to diminish self-confidence in these students. Once they found there was a method where they could remember and use the tables, their self-confidence in their academic abilities increased visibly and they were interested in continuing on through the math functions. The most important change was the change in attitude from "I can't do math," to "Lets see how far I can go."

Tic Tac Toe Math helped the students who needed to memorize in smaller steps. Once the pattern was learned, the students always knew the right answer. In the classroom, math was taught on an individual and group basis using Tic Tac Toe Math by Richard Cooper, Ph.D. The book contained sufficient practices and explanations of the process. Each student was given a copy of the Tic Tac Toe Math Workbook by Dr. Richard Cooper which contained all their personal work and explanations.

If teachers have never used this method of instruction, they need sufficient time to learn the process. For teachers and adults who were capable of memorizing the multiplication tables as children this process appears complicated, and the teachers need time to feel and use only the patterns and not the tables. It is much easier for the students to master because they do not use the times tables as a base of knowledge; they only look for the patterns.

The only problem encountered in teaching the tic tac toe method of math was having the students understand when to make the jump to the next digit when inserting the number in the tens position. Finally, it was discovered that by relating the numbers to money, which was a concept all students understood, the jump could be understood. By telling the students they never wanted less money, they understood that after 28 the next number was not 22 but it was 32. Most of the students not only learned the process for numbers 1 through 9, but also easily learned the double and triple digit graphs necessary to solve more difficult long division. Students who could never multiply were happily working on division with three digit divisors, and beginning to work with fractions and decimals.

Repetition is crucial in working with learning disabled students. In order to insure the memorization of the graphs, at the onset of each class, all math students were required to make the graphs 1 through 9. Periodically the class reviewed the process on the board. The students were able to help each other when the need arose and the teacher was busy with another student. All the students who had sufficient time in class met their learning goal to learn to multiply, most went on to learn division, and few carried their abilities into fractions and decimals. When the students had gained the tools necessary for success, most of them left the classroom and went into the regular ABE program.

Adults came into the learning disabilities class not only for assistance in math but also to improve reading skills. These students had to be taught the reading skills because poor readers do not learn to read by reading. They must practice exercises and then apply them to reading. The students working on reading improvement enjoyed using the Sight/Sound System by Richard Cooper Ph.D. One major reason for success with this method is the students begin reading large words immediately. The compound word list was used by three students. They listened to the correct reading of the words and the students would then read the lists to each other. The students worked in groups and helped each other with proper pronunciation while at the same time they mentally reviewed the words as each student read orally. Through this method the students had more time on task.

The compound word lists were reviewed until the student could easily recognize them.

Because many students only read the beginnings of words and not the endings the compound words were read in reverse, ie. granduncle - this word would be read as unclegrand. Through this practice the students became aware of the importance of word endings to reading comprehension. The students were also asked to make simple sentences using as many compound words as possible.

As these students progressed through the compound words they were taught to read and recognize word parts as clues for decoding words. Word parts refer to prefixes, suffixes, roots, syllables and any other recognizable parts of words. This activity helped students in decoding unknown words. Phonics was not taught because many of the students cannot physically hear the sounds. By learning word parts and using repetition, the students progressed in decoding skills. Because students learned suffixes as sight words, they became more aware of the need to read the entire word, not just the beginning. After working with Sight/Sound System by Dr. Cooper, the students read and practiced in "News for You" by New Readers Press, Syracuse, N.Y.

In the "News for You" students scanned articles and located and circled preassigned suffixes. This was another awareness exercise in reading. While reading the articles the students were required to keep personal word lists. The pronunciations and definitions were discussed and used. Afterwards the personal word lists became reading sight words which were periodically reviewed.

Other students had good decoding skills but were poor in comprehension. With one student it was determined an advanced ESL (English as a Second Language) class would be more appropriate because she had a weak English vocabulary. Another student worked on vocabulary development skills, reading for main idea, inference etc. She needed to be taught and to practice the basic comprehension skills. These students all made reading progress and left class with a feeling of success.

Students entering the program went through a formal assessment process. This assessment was created by Dr. Richard Cooper of Learning Disabilities Consultants, Bryn Mawr, Pa. as his tool to help determine some of the learning disabled students' problem areas. Each student also set a learning goal. For purposes of privacy the students' actual names are not used in this evaluation. They will be referred to only by a number.

The first student into the program came the first day of class and stayed with the program through its completion. His goals were in the area of both math and reading. He needed to

learn the multiplication tables in order to be successful in other areas of math. This student learned the tic tac toe method and went on to use it in finding common denominators. He used the method throughout his work with fractions. He also had severe decoding problems in reading. With the aid of the volunteer class tutor, he practiced the compound words and in class he worked on word parts. He improved his decoding skills to the point where he could read orally and comprehend what he had read in "News for You". In the evenings he began reading a short, simple novel for his personal pleasure and practice. This student was almost ready to begin to read parts of the daily newspaper.

Student #2 also joined the class at its inception and remained through the duration of the class. She had the same math goals as student #1. She needed to learn the multiplication tables in order to advance in math. She met this goal and progressed through the division of fractions. In reading this student had difficulty with comprehension. She decoded well, but did not comprehend her reading. Her reading goal was to understand "main idea". After several months of one on one instruction, she improved her reading comprehension, was able to understand stated main idea, and could read for details.

The third student in the class came only for reading. She had excellent decoding skills, but the minimum of comprehension. Her goal was to be able to understand anything she was reading. After working with her for several weeks, it was determined her knowledge of vocabulary and written English were marginal; this contributed to her poor comprehension. An advanced English as a Second Language was recommended for her, since she needed intensive English language and vocabulary work.

The fourth student was a young lady who was trying to change her life completely. She came to class with the goal of being able to remember the multiplication tables and to be able to multiple and divide. She more than surpassed that goal as she progressed to addition and subtraction of fractions with unlike denominators. After completion, she returned to her regular ABE class.

The fifth student came to class with multiple deficiencies in math and reading compounded by substance abuse problems. He came to class with lofty goals which had to be made more realistic through counseling. He also blamed others for his problems and failures. Through the program he slowly began to realize in small ways that all people are responsible for their own successes. His learning goal was to be able to add, subtract, and multiply. He perfected addition and subtraction, and he learned to make the graphs for the multiplication tables. He learned simple multiplication and division but had difficulty with more complicated addition and division. More progress could

have been made, but personal problems created spotty attendance patterns.

Student number six was recommended to class by Dr. Richard Cooper. He was a young man with marginal reading and computation skills. Unfortunately, he entered class believing it was going to solve all his problems. After realizing he would have to work hard to meet realistic goals his attendance decreased for several reasons; one of which was fatigue from a night job. He did learn to make the graphs for the multiplication tables and to use them when solving multiplication problems. He did not attend enough classes to review and thoroughly learn the skills to be able to use them at a future time.

An older gentleman was the seventh student in class. Employed and having raised nine children, it was his turn to take time to obtain the education he felt he had missed. His problem area was math. In the regular ABE class he progressed through addition and subtraction, but had classic learning problems with the multiplication tables. Tic Tac Toe Math was exactly the proper solution to his problem. After learning to make the graphs through the triple digits, he quickly proceeded through multiplication and division. He felt very successful having mastered the knowledge which had eluded him throughout his lifetime. He returned to his ABE class and continued using the graphs with his work in fractions. He eventually began to recognize certain multiplication combinations, and he was well on his way to success.

The eighth student had multiplication difficulties, but she had committed to memory about half of the multiplication tables. She came to class only a few times; she said she could not memorize the graphs because they were too difficult. She was the only student to quit the program without giving it sufficient time.

Defeat and poor self-image were only some of the entering personal problems of the ninth student. This man had always been the troublemaker and bully in school as a means to cover his feelings of academic inferiority. He became an enthusiastic supporter of Tic Tac Toe Math. Previously, he was unable to do any math past subtraction. His entering goal was to learn to multiply. He easily committed the graphs to memory and learned to multiply and divide. Through the successes he gained in class, his self-image began to improve. This student became one of the programs most vocal supporters.

Two ladies, recommended by JTPA (Job Training Partnership Act), were students ten and eleven. Both students had severe English language proficiency problems which made explanations difficult. Other students in the class had to translate for them, but some degree of success was attained. One of the

students learned to subtract, to make Tic Tac Toe graphs, to multiply, and to solve beginning division. The other student barely proceeded through subtraction, but at times still counted on her fingers. The first lady attained her goal of being able to multiply, while the second one was marginally successful.

The twelfth student came from an ABE class because of multiplication difficulties. He learned the method quickly and taught it to his brother who also had math problems, but refused to come to class. Fortunately he accomplished his goal in a short period of time because he was called back to work and had to stop attending classes.

The last student also learned the Tic Tac Toe Math system quickly. She was an enthusiastic supporter of the program because through the use of Tic Tac Toe graphs, which she memorized, she could proceed into fractions. She had the ability to understand other forms of math, but could never remember the multiplication tables. This system solved her problem and allowed her to progress in her learning.

Nine of the thirteen students successfully reached or surpassed their goals. They were extremely pleased and proud of their achievements because they had had academic problems most of their lives. These students came from all walks of life: young and old, male and female, employed and unemployed. For the first time in their lives their academic efforts were positive and they began to believe they were capable of learning. The rewards for the instructor's patience are manifold, they helped guide students to achieve positive academic experiences which led to improved self-image.

Appendix

1. Assessment
2. Student Evaluations

ASSESSEMENT

Date _____ Age _____

NAME _____ EVALUATOR _____

ADDRESS _____ PHONE _____

_____ Grade _____

Reason for Referral: _____

_____

Early developmental tasks

Walked _____

Talked _____

Bicycling _____

Beginning Reading _____

Beginning Writing _____

Beginning Number Concepts _____

Repeated grades _____

Right handed _____ Left Handed _____

Educational history

Elementary Schools _____

_____

_____

Grades A _____ B _____ C _____ D _____ F _____

Middle Schools _____

_____

Grades A _____ B _____ C _____ D _____ F _____

High Schools _____

_____

_____

Grades A _____ B _____ C _____ D _____ F _____

QPA _____

Colleges _____

_____

Major _____

_____

Grades A _____ B _____ C _____ D _____ F _____

QPA _____

Graduate Schools _____

Major _____

_____

Grades A _____ B _____ C _____ D _____ F _____

QPA _____

Special placement or assistance _____

_____

Print Name No problem _____
legible _____ position on page _____ slant _____
size _____ letter formation _____ spacing _____
reversals _____

Write Name No problem _____
legible _____ position on page _____ slant _____
size _____ letter formation _____ spacing _____
reversals _____

Write sentence about why you are here. No problem _____
legible _____ position on page _____ slant _____
size _____ letter formation _____ spacing _____
reversals _____ syntax _____
complete sentence _____ punctuation _____ spelling _____
_____

Write the alphabet No problem _____
legible _____ position on page _____ slant _____
size _____ letter formation _____ spacing _____
reversals _____ complete _____ Mixed caps and small _____
to edge of page _____ subvocalized
Noted problems _____

Write numbers 1 to 12 No problem _____
legible _____ position on page _____ slant _____
size _____ letter formation _____ spacing _____
reversals _____

Drawing
_____

Dice
Counts individual dice _____
First Roll (6 dice)
Easily adds _____ counts _____ Total correct _____ incorrect _____
works from small to large _____ works from large to small _____
Grouped _____

Noteable behavior _____

Second Roll (12 dice)
Easily adds _____ counts _____ Total correct _____ incorrect _____
works from small to large _____ works from large to small _____
Grouped _____

Noteable behavior _____

Third Roll (20+ dice)
Easily adds _____ counts _____ Total correct _____ incorrect _____
works from small to large _____ works from large to small _____
Grouped _____

Noteable behavior _____

When asked to organized
can group like kind _____
can group by tens _____
can group by what number _____

learns new task quickly _____ slowly _____

becomes overwhelmed _____

turns over dice _____

Stacks dice _____
Lined up dice _____
Colors cause difficulties _____

implications for academics _____

Counts on fingers? Always _____ Sometimes _____ Never _____

Knows addition facts Yes _____ No _____ 9 + 7 _____ 8 + 6 _____

Knows subtraction facts Yes _____ No _____ 17 - 9 _____ 12 - 5 _____

Difficulty learning multiplication tables Yes _____ No _____
Know multiplication tables now Yes _____ No _____ 8 x 7 _____ 7 x 6 _____

Problems with long division Yes _____ No _____

Word Problems difficult Yes _____ No _____

Taken algebra _____ problems _____

Taken other math _____ problems _____

Catorigies
Did you have trouble with science Yes _____ No _____

Put into categories:
cars _____
TV shows _____
animals _____

Reading word list, Word attack skills,
Read to line _____ with assistance _____
Word attack skills None _____ Poor _____ Fair _____ Good _____
Phonic skills None _____ Poor _____ Fair _____ Good _____
Able to read to line with contextual clues _____
Noteable problems _____

Reading passage

Word attack Simple words _____ Complex words _____

Choppy _____

Left off or missed endings _____

Left off or missed prefixes _____

Misreads words _____

Added words _____

Skiped words _____

Substitutes words for similar words _____

Difficulty prouncing words _____

Doesn't take punctuation into account _____

Tracking problems _____

Use of finger _____

Ability to paraphrase _____

Reads whole pages without remembering _____

Fireworks _____

Problem identifiying main idea _____

Can get detail _____

Problems with Comprehension _____

familar _____ unfamilar _____

Embarrassed when reading out loud _____

Tilts head _____

Directionality

Problem with right and left Yes ____ No ____ Maybe _____

Reversals early childhood Yes ____ No ____ Maybe _____

Type _____

Reversals as adult Yes ____ No ____ Maybe _____

Type _____

Reversals other than words Yes ____ No ____ Maybe _____

Type _____

Stops at green lights Yes ____ No ____ Maybe _____

Poor sense of direction Yes ____ No ____ Maybe _____

Spelling problems Yes ____ No ____ Some ____ What _____

Do you read a lot Yes ____ No ____ Some ____ What _____

Do you write a lot Yes ____ No ____ Some ____ What _____

(Hyper)active as child Yes ____ No ____ Some ____ What _____

Very active now Yes ____ No ____ Some ____ What _____

High Energy level Yes ____ No ____ Some ____ What _____

Mind races Yes ____ No ____ Some ____ What _____

Begins many tasks before complete them Yes ____ No ____

Leaves doors and draws open Yes ____ No ____

Organized Yes _____ No _____ Some _____

Impulsive Yes _____ No _____ Some _____

Compulsive Yes _____ No _____ Some _____

Distractible Yes _____ No _____ Some _____
Sights _____ Sounds _____ Own thoughts _____

Drives Yes _____ No _____ Learned at what age _____

Concentration Good _____
Limited _____

Play sports Yes ____ No ____ Some _____ What _____

Coordination Good_____ Poor_____

Problem with hand/eye coordination Yes _____No _____ Some _____

Loses things often Yes _____ No _____ Some _____

Emotional stability
Mood Swings Yes _____ No _____
Happy _____ Sad _____ Anger _____ Calm _____
Easily Overwhelmed _____ Depressed: _____ Severe _____ Mild ____

Nervious Yes ____ No ____ Some _____ What _____

Worry Yes ____ No ____ Some _____ What _____

Test anxiety Yes ____ No ____ Some _____ What _____

Daydream Yes _____ No _____ When _____

Curious Yes ____ No ____ Some _____ What _____

Notetaking problems Yes_____ No____ What Kind _____
Spelling _____ Main idea problem _____ Lis/write _____

Difficulty learning things for the first time. _____ What _____

Does it take longer to do things. _____
Reading _____
Writing _____
Math _____
Other _____

Expressive language
Vocabulary _____

Organization of thought _____

Prounciation _____

Motion Sickness Yes ____ No ____

Tics or Notable behavior_____

Memory Problems _____

Visual memory _____

Auditory memory _____

Childhood _____ Short term _____

Immediate recall _____ lists _____

Employment _____

_____

Best job _____ Worst job _____

Artistic _____

Art _____

Music _____

crafts _____

Time managment good _____ OK _____ poor _____ somewhat _____

Auditory Difficulties

Listens to more than one conversation at once _____

Distracted by background noise _____

Able to Rhyme Cat _____ Slow _____ Qiuck _____

Receptive language Problems?

Mishear words _____

Misinterpert _____

Must ask again _____

have trouble paying attention _____

Need background noise _____

Problems with multiple directions _____

Problems with sequencing _____

Dials phone wrong _____

4/20/91

To whom it may Concern

The tick tock to math class has helped me tremendously with my math. I actually enjoy the new math. It also gives me practice with the times table, so eventually I will know them all.

Yes this is,

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Tic Tac Toe math has helped me, In learning the times tables. I also use it when doing divison and will be able to use it in the future with all other math.

BEST COPY AVAILABLE

To whom it may Concern

I Annrose am very great ful for having the change to learn the tic tac toe math it has may a big change in my life. It makes ~~make~~ it a little more easily for me to do. I feel that people who have real problems with math should learn the tic tac toe math. when I see my friends that need help in math like how I did I will try and teach them the tic tac toe math and if they learn I will feel good because I got help and now I can help some one else.

repect fully
Annrose
Annrose

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Tic Tac Toe ...

Tic tac toe math game helped me in
doing my math much faster.
It help me my fractions.

Sight sound help me to read much better
and it help me in spelling words much better

Thanks ...

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I feel so good that now I can read and do math in the class I really know how to do math and read good. only with the help of this class and Tic Tac Toe math. I read ad do math a little bether than before so I feel great and good about myself.

Thanks to this class that I can do what I can now.

Admira

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With — book of the pages
i.e. the table is that is
very helpful for those who need
special help on the time table
I have learnt how to multiply
one number by three or four
and 5.
IS an easy process.
Kannan . . .

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To Whom it Concern 4,30,91

This is to state that tic tac toe graphs have helped me remmber my times tables, and it has inabled me to learn Dillision much i use on a day to day basses in my work as a private home contractor. it enables me to work towards a face estimate on materials and prices for a job, it also makes me feel more independent wich realy makes me my own boss I belive the tic tac toe methad is a very valuable tool in my life planes, such as being able to earn more money and respect fran family and friends in short it will inable me to inshure my feuture.

Thank you
Robert.

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4/30/91

I like the tic tac toe math because is more easy to make it easier for me to learn my times table

Braille - 0